

**The Rural Outreach Project
Summary of Research Report
NASA Agreement No. NAG-1-2098 (Dr. Clarence D. Coleman)**

The Rural Outreach Project was designed to increase the diversity of NASA's workforce by: 1) Conducting educational research designed to investigate the most effective strategies for expanding innovative, NASA-sponsored pre-college programs into rural areas; 2) Field-testing identified rural intervention strategies; 3) Implementing expanded NASA educational programs to include 300 rural students who are disabled, female and/or minority; and 4) Disseminating project strategies.

The Project was a partnership that included NASA Langley Research Center's Office of Education, Norfolk State University, Cooperative Hampton Roads Organizations for Minorities in Engineering (CHROME) and Paul D. Camp Community College.

There were four goals and activities identified for this project; 1) Ascertain effective strategies for expanding successful NASA-sponsored urban-based, pre-college programs into rural settings; 2) Field test identified rural intervention strategies; 3) Publish or disseminate two reports, concerning project research and activities at a national conference; 4) Provide educational outreach to 300, previously underserved, rural students who are disabled, female and /or minority.

The Rural Outreach Project was based at Franklin High School, Franklin, Virginia. There were four schools that participated in the project: S. P. Morton Middle School, Southampton Middle School, Southampton High School and Franklin High School. The CHROME model was used for serving the schools. CHROME is a successful education modality serving more than 3,000 pre-college students through 122 "clubs", where 70% of CHROME students pursue degrees in science or engineering.

During the course of the Project, visits and demonstrations from adult CHROME members and Norfolk State University (NSU) faculty exposed students to career opportunities, demonstrations in materials science and space science, provided them with role models and encouraged advanced study in mathematics and science areas. Fun hands-on activities and field trips to science, mathematics and engineering facilities such as NASA Goddard, EVMS Medical School, Jefferson Laboratory in Newport News, VA, several science museums and other locations, enhanced students' understanding of real-world applications and career options. Sponsored Saturday Academies, Summer programs at NSU and open-houses' in science and engineering, gave students additional training in areas of science, mathematics and engineering. In addition to student training, parent workshops and teaching training sessions were administered in support of students. Teachers gained and shared knowledge from many areas, therefore, incorporating new ideas into CHROME clubs. Parents were provided information about scholarships, internships and summer enrichment program opportunities, as well as college planning and preparation.

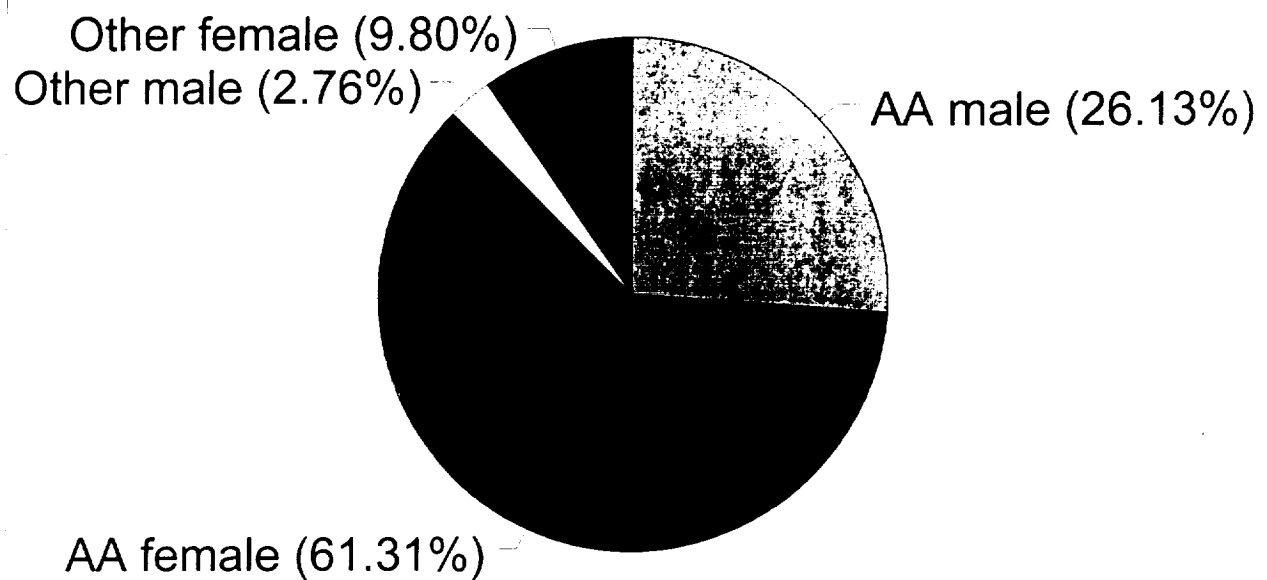
Students stated that the Rural Outreach Program and the CHROME clubs in their schools were a great benefit to them. Comments included; "My experiences increased my understanding of the sciences;" "As a result of my attendance in the Summer Program, my desire to learn science increased;" and I will consider a career in the sciences." Several students were awarded college scholarships to pursue career goals.

SUMMARY

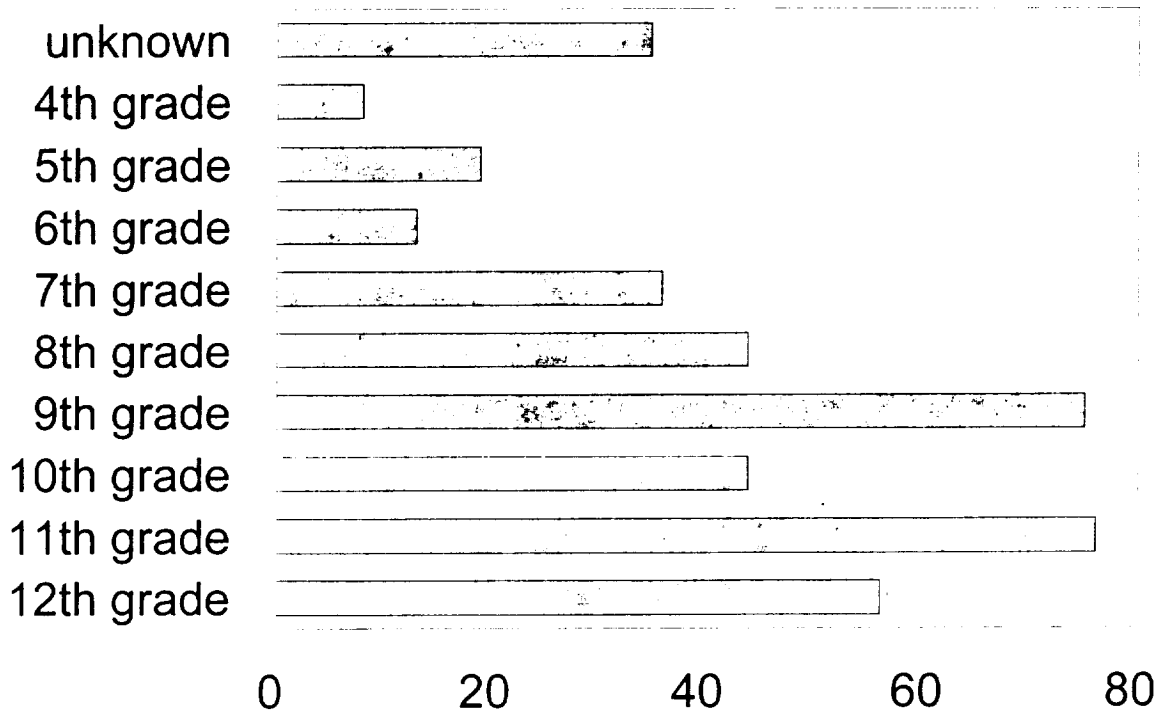
The four objectives for the Rural Outreach Project were accomplished to the point that: 1) The number of students participating in the Project increased from 130 in 1997-98 to 400 during the 1999-2000 academic year; 2) There were three presentations prepared for the following National Conferences; Quality Education For Minorities (QEM) Network, American Chemical Society National Convention, and NASA MUREP Conference. However, the NASA presentation was not given at the conference because the Principle Investigator became ill at the conference and had to return home. 3) An Aerospace Institute web site, <http://www.pc.cc.va.us/Tureman-nsip/> and a Space Botany site at <http://www.pc.cc.va.us/Patterson/Science/Projects/CHROME/results.htm> was developed to disseminate activities developed for the Human Physiology in Space (High School Students) and the Orbital Space Settlement (Middle School Students); 4) Educational strategies employed to disseminate information to students were based on pre-post assessment of students.

Statistics for participants have been submitted to NASA previously, however, the following data are provided for the 1999-2000 academic year to illustrate the growth of the program and its participants.

Ethnicity & Gender



Grade Levels



career interests

1999-2000

